

A Bi-National Assessment: What We're Measuring in the Great Lakes Basin

Duane Heaton

U.S. EPA

Great Lakes National Program Office

Chicago, IL



Overall Purpose of Great Lakes Water Quality Agreement

“ . . . to restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin Ecosystem.”

What is SOLEC?

- *State of the Lakes Ecosystem Conference*
- *Biennial report on progress toward meeting goals of the Great Lakes Water Quality Agreement*

SOLEC Themes

- 1994



State of the Great Lakes

- 1996



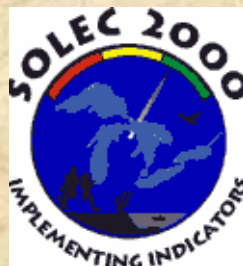
*The Nearshore Environment
and Land Use*

- 1998



*Great Lakes Indicators &
Diversity Investment Areas*

- 2000



*Implementing Indicator Reporting
(Human Health Focus)*

Why Create a SOLEC Indicator List?

- *Define a set of indicators to give an overview of conditions in the Great Lakes*
- *Provide consistency of information at future SOLEC events*
- *Lead to efficient allocation of resources for data collection, evaluation and reporting*
- *Reach consensus on information needed for multiple Great Lakes programs*

What is a SOLEC Indicator List?

A compilation of indicators that are necessary, sufficient, and feasible to characterize the state of the Great Lakes Basin ecosystem

Indicator Components

The Measurement

What is the observed state of the ecosystem component being measured?

The End Point or Reference Value

What is the desired state of the ecosystem component being measured?

SOLEC Indicator Groups

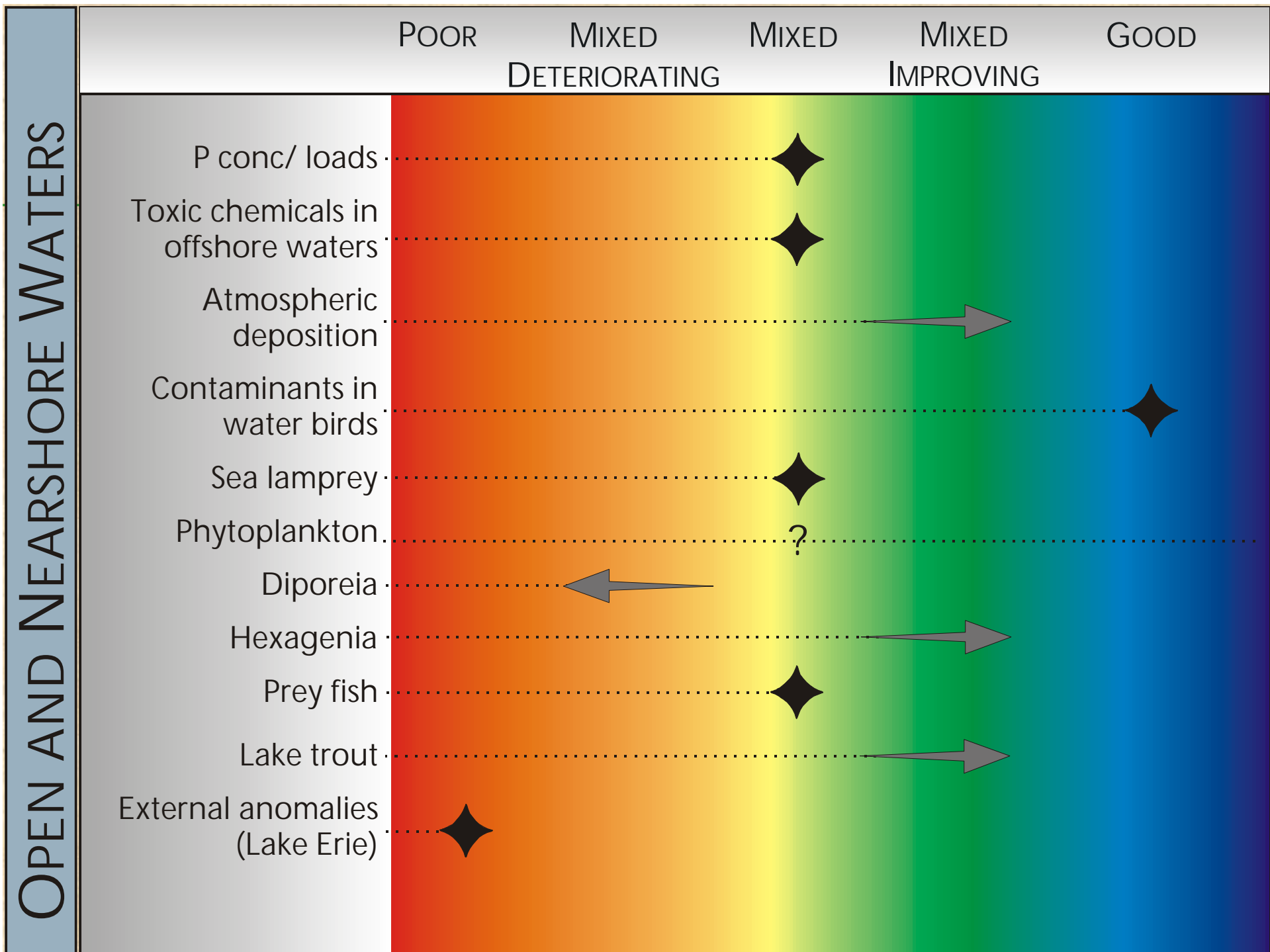
- Nearshore and Open Waters 24
- Coastal Wetlands 21
- Nearshore Terrestrial 18
- Human Health 9
- Land Use 13
- Societal Indicators 15
- Unbounded 7

SOLEC Indicators by Environmental Compartment

- Air 9
- Water 19
- Land 19
- Sediments 4
- Biota 38
- Humans 13

SOLEC Indicators by Great Lakes Issue

- **Contaminants and Pathogens** 29
- **Nutrients** 11
- **Exotic Species** 14
- **Habitat** 27
- **Climate Change** 7
- **Stewardship** 19



COASTAL WETLANDS

POOR

MIXED

MIXED

MIXED

GOOD

DETERIORATING

IMPROVING

Amphibians



Snapping turtles



Bird diversity /
abundance

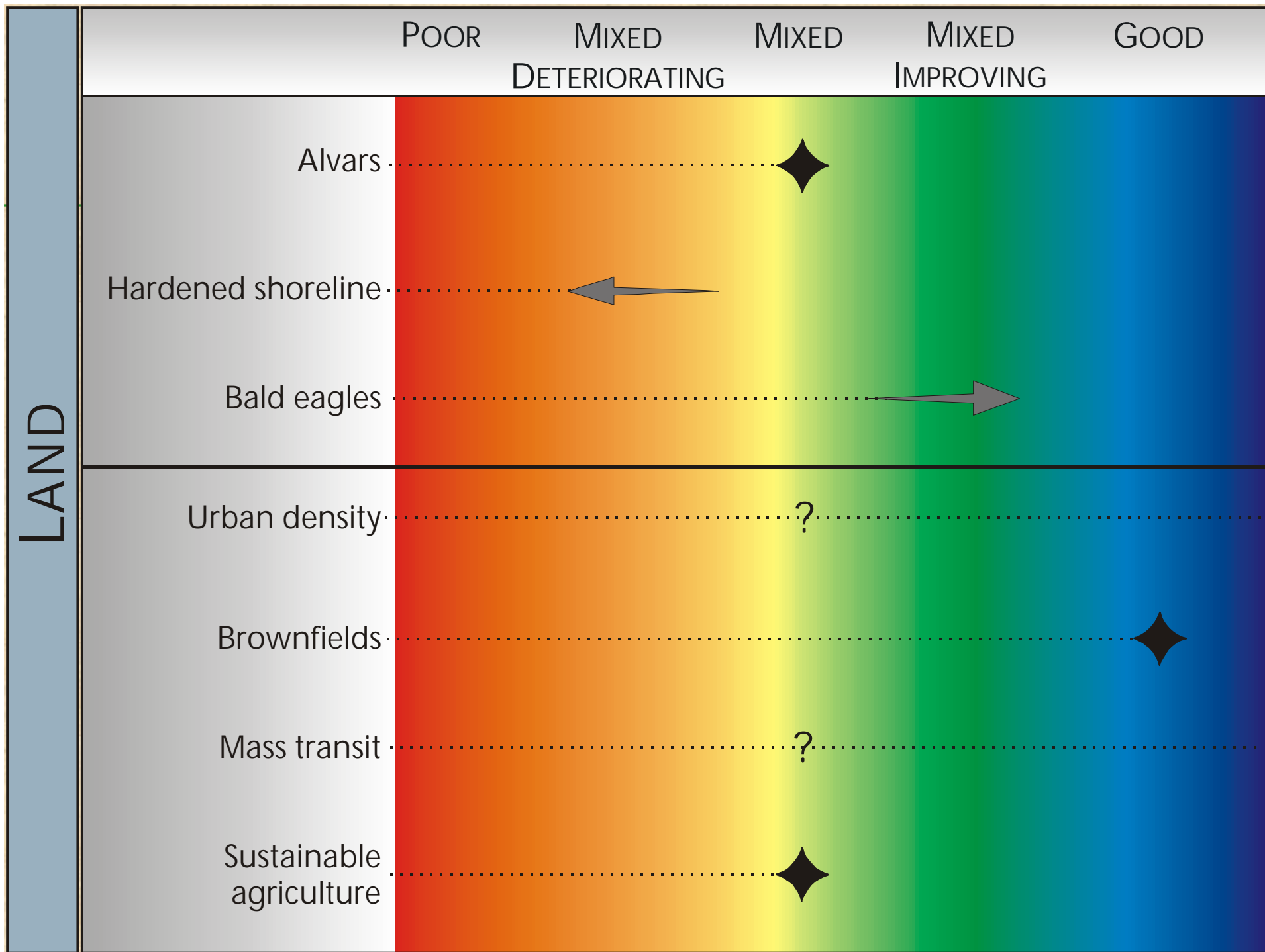


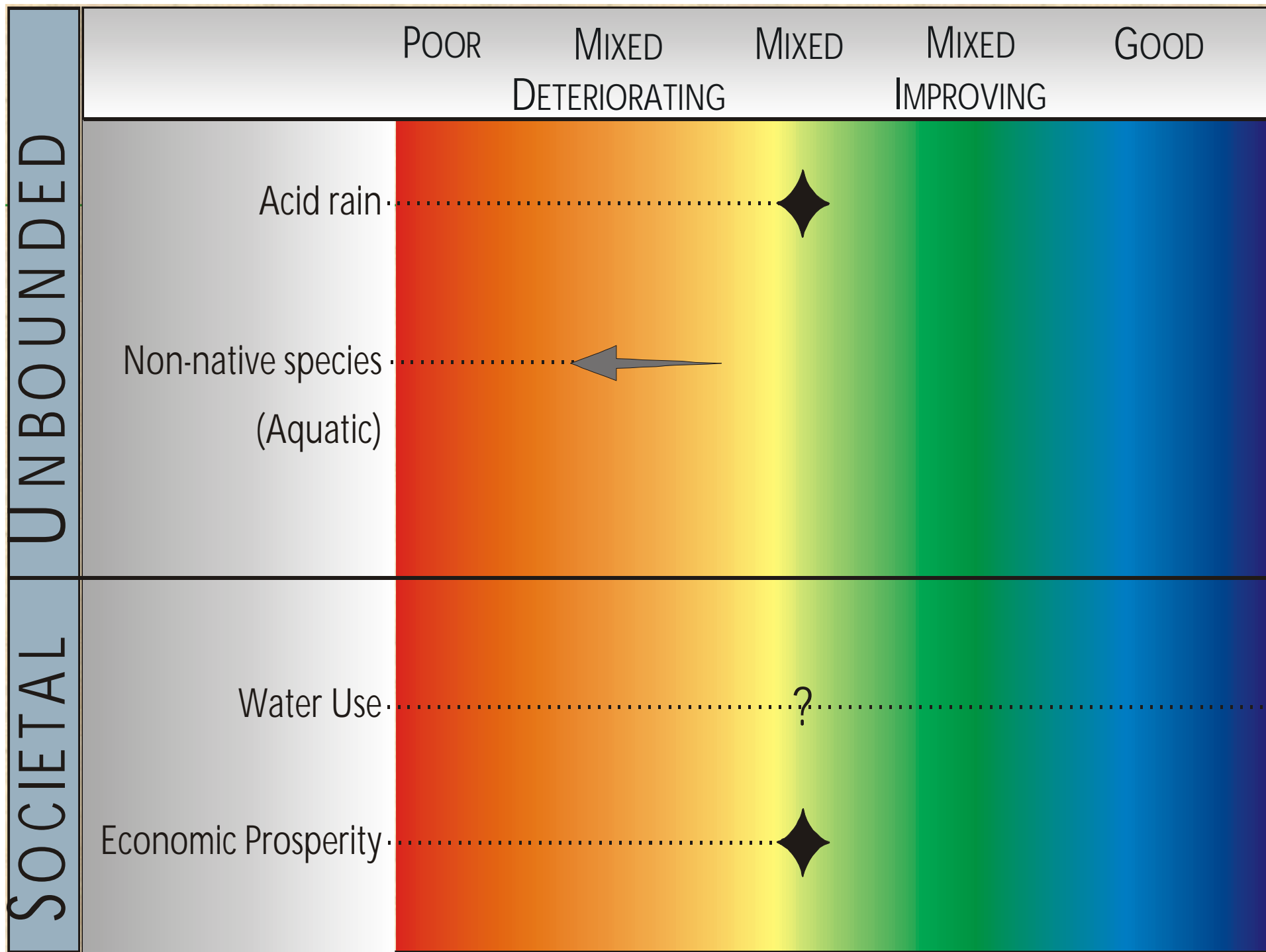
Area by type

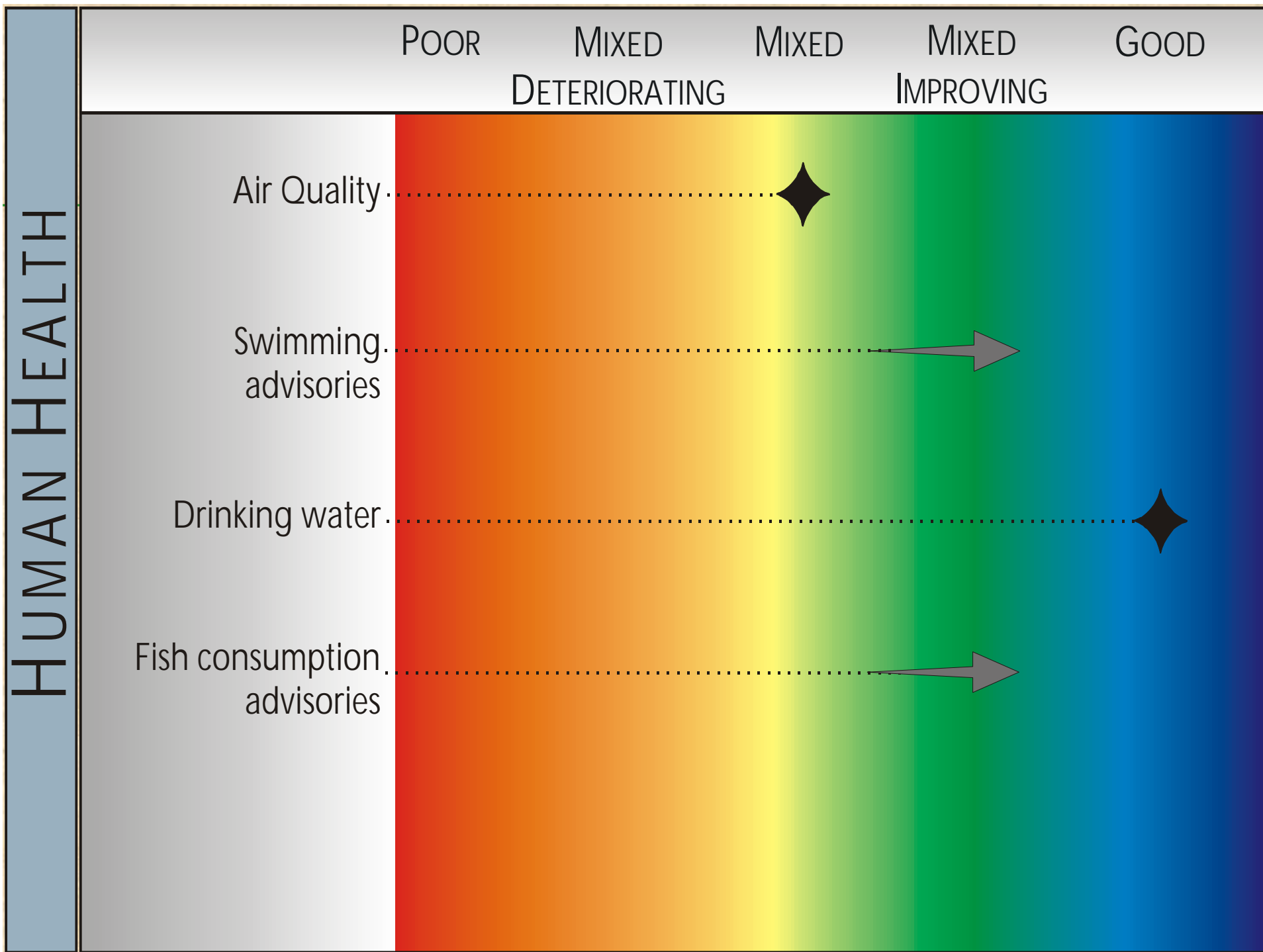


Effects of water
levels









For More Information...

Visit the SOLEC websites:

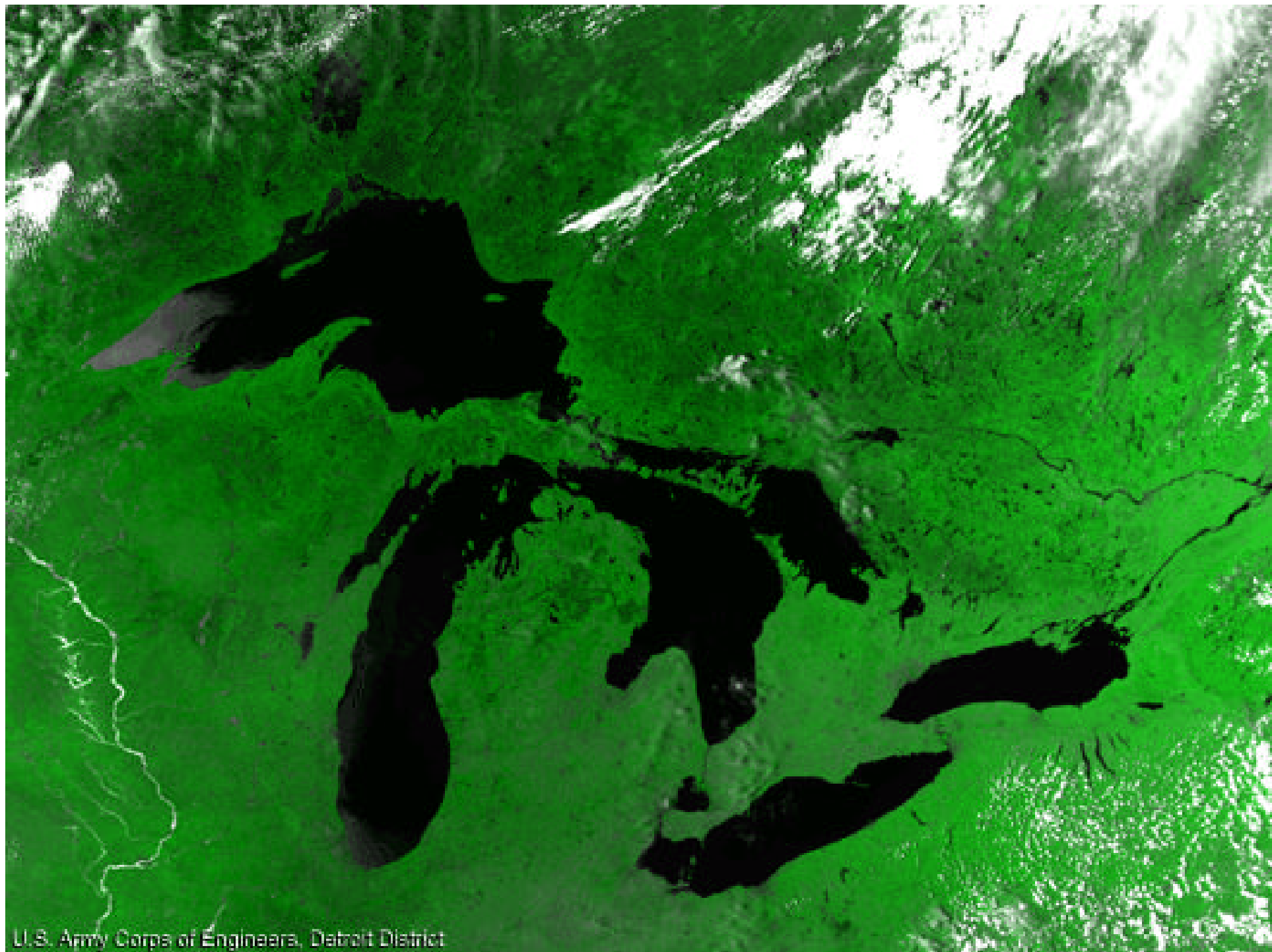
www.on.ec.gc.ca/solec/

www.epa.gov/glnpo/solec/

Or contact:

nancy.stadler-salt@ec.gc.ca

bertram.paul@epa.gov



U.S. Army Corps of Engineers, Detroit District

Process for Selecting SOLEC Indicators

- *Establish Core Groups & Panels of Experts*
Open & Nearshore Waters, Coastal Wetlands, Nearshore Terrestrial, Human Health, Land Use, Societal
- *Mine existing documents for indicators*
- *Select, Revise, Combine, Create Indicators*
- *Propose suite of indicators at SOLEC'98*